

We Claim:

1. A multi-layer polymeric film comprising:
 - (a) a first skin layer having a first side and a second side;
 - 5 (b) a core layer comprising polypropylene, a polymeric modifier, and a hydrocarbon resin wherein the core layer has a first side and a second side and the first side of the core layer is adjacent to the second side of the first skin layer;
 - (c) a second skin layer having a first side and a second side wherein the first side of the second skin layer is adjacent to the second side of the core
 - 10 layer.
2. The film of claim 1 wherein the thickness is from about 8 microns to about 40 microns.
3. The film of claim 1 wherein the modifier in the core layer is selected from the group consisting of atactic polypropylene, syndiotactic polypropylene,
- 15 ethylene-propylene copolymer, propylene-butylene copolymer, ethylene-propylene-butylene terpolymer, polybutylene, and linear low density polyethylene.
4. The film of claim 1 wherein the polypropylene in the core layer is isotactic polypropylene.
- 20 5. The film of claim 1 wherein the polypropylene in the core layer is recycled polypropylene.
6. The film of claim 1 wherein the hydrocarbon resin in the core layer is selected from the group consisting of petroleum resins, terpene resins, styrene resins, cyclopentadiene resins, and saturated alicyclic resins.
- 25 7. The film according to claim 6 wherein the hydrocarbon resin is a saturated alicyclic resin.
8. The film of claim 1 wherein the core layer comprises up to about 15 percent by weight of the polymeric modifier and up to about 15 percent by weight of the hydrocarbon resin.
- 30 9. The film of claim 1 wherein the core layer comprises from about 2 percent by weight to about 10 percent by weight of polymeric modifier and from about 2 percent by weight to about 10 percent by weight of hydrocarbon resin.

10. The film of claim 1 wherein the core layer comprises from about 80 percent by weight to about 95 percent by weight of the polypropylene.

11. The film of claim 1 wherein the first skin layer comprises a polymer selected from the group consisting of ethylene-propylene random copolymers, ethylene-propylene-butene random terpolymers, and propylene-butene copolymers.

12. The film of claim 1 wherein the first skin layer comprises low density polyethylene.

13. The film of claim 1 wherein the second skin layer comprises a polymer selected from the group consisting of ethylene-propylene random copolymers, ethylene-propylene-butene random terpolymers, propylene-butene copolymers, low density polyethylene, polyethylene, and polypropylene.

14. The film of claim 1 wherein the first skin layer further comprises an anti-block agent.

15. The film of claim 1 wherein the second skin layer further comprises an anti-block agent.

16. The film of claim 1 wherein the film is oriented at least about five times in the machine direction (MD).

17. The film of claim 1 wherein the film is oriented about six to about ten times in the transverse direction (TD).

18. The film of claim 1 wherein the core layer represents about 70 to about 95 percent of the thickness of the total film.

19. A method for manufacturing a multi-layer polymeric film comprising the steps of

(a) coextruding a first skin layer comprising a polymer, a core layer comprising polypropylene, a polymeric modifier, and a hydrocarbon resin, and a second skin layer comprising a polymer;

(b) stretching the film in the machine direction (MD); and

(c) stretching the film in the transverse direction (TD).

20. The method of claim 19 wherein the film is stretched from about 6 to about 10 times in the transverse direction (TD).

21. The method according to claim 19 where the film is stretched at least about 5 times in the machine direction (MD).

22. The method of claim 19 further comprising the step of coating the first skin layer.

5 23. The method of claim 19 further comprising the step of flame treating the first skin layer.

24. The method of claim 19 further comprising the step of corona treating the first skin layer.

10 25. The method of claim 19 further comprising the step of winding the film onto a reel.

10212 APP 15 21 The method according to claim 19 where the film is stretched at least about 5 times in the machine direction (MD). 22 The method of claim 19 further comprising the step of coating the first skin layer. 5 23 The method of claim 19 further comprising the step of flame treating the first skin layer. 24 The method of claim 19 further comprising the step of corona treating the first skin layer. 10 25 The method of claim 19 further comprising the step of winding the film onto a reel.